

REMARKS

Claims 1, 2, 4 to 13, 15 to 24, and 26 to 40 are pending in this application. Of these, claims 1, 12, 23, 33 and 37 are independent. Favorable reconsideration and further examination are respectfully requested.

Initially, Applicant thanks the Examiner for the indication that claims 4 to 8, 15 to 19, 26 to 30, 35 and 39 contain allowable subject matter. Applicant, however, has not incorporated allowable subject matter into the independent claims because Applicant believes that the claims, as written, are patentable for at least the reasons set forth below.

Claims 8, 19 and 30 were objected to for allegedly not being described in the specification. In particular, it was said that "shifting the first bit" is not described. Initially, Applicant note that the language objected to was in the claims as filed and is supported, e.g., on page 12, line 11 to page 13, line 4 of the application, which describes the word rotator moving bits to achieve a desired phase (see also page 20, lines 10 to 20 of the application). Accordingly, withdrawal of the objection to the claims is respectfully requested.

Claim 1, 2, 9 to 13, 20 to 24, 31 to 34, 36 to 38, and 40 were rejected over U.S. Patent No. 6,876,630 (Shim) in view of U.S. Patent No. 3,940,563 (Susset).

Independent claim 1 defines a method of processing frames of data comprised of frameword bytes and a payload. The method comprises receiving data for a first frame, storing the data for the first frame in N , $N \geq 2$, registers, and identifying a start of the first frame of data and a phase of the first frame concurrently based on the frameword bytes. The phase of the first

frame is identified based on a location of the start of the first frame in at least one of the N registers. The method also includes aligning data in a second frame of data, based on the phase of the first frame, to make a start of the second frame coincide with a start of a byte boundary.

The applied art is not understood to disclose or to suggest the foregoing features of claim 1, particularly with respect to identifying a phase of the first frame (concurrently with the start of the first frame) based on the frameword bytes, where the phase of the first frame is identified based on a location of the start of the first frame in at least one of N registers, and using the phase to align data in a second frame of data.

In this regard, Shim describes a reframer that includes a frame start detecting unit 120, an initial value setting unit 130, a counter 140, and a frame alignment unit 150 (see Fig. 2 of Shim). According to Shim, frame start detecting unit 120 identifies a frame alignment signal/pattern (FAS) in received data, whereupon following detection of the FAS signal, initial value setting unit 130 outputs an initial value to counter 140 (see col. 9, lines 8 to 20). Thereafter, the frame alignment unit 150 identifies received frames of data using the FAS signal and a count generated by the counter. That is, the frame alignment unit knows, from the FAS signal, the start of a frame, and the length of a frame. Using this information and the count, the frame alignment unit is able to identify a frame of data in the received data. The frame alignment unit also identifies abnormal bits in the data, and frames the received data accordingly.

The foregoing is essentially what is described in the portions of Shim, which were cited against claim 1, namely col. 10, lines 38 to 57 and col. 12, lines 7 to 25. Thus, while Shim does describe identifying a frame based on data, such as an FAS, Shim does not describe identifying a

phase of a frame, where a phase, according to claim 1 is identified based on a location of the start of the first frame in at least one of the N registers. In this regard, the Office Action rightly acknowledges that Shim does not disclose registers to store its incoming data. Accordingly, Shim could not possibly disclose identifying a phase of the frame, since phase identification is, according to claim 1, based on a location of a frame in a register.

Susset was cited for its disclosure of storing data in a register. Specifically, the Office Action points to block 10 in Fig. 2 of Susset for its disclosure of storing incoming data in a register. Applicant agrees that Susset describes storing input data in a register; however, Applicant disagrees that the combination of Susset with Shim would render claim 1 obvious. More specifically, in Shim, the frame start point detecting unit detects the start of a frame without detecting its phase in registers. Thereafter, the Shim circuitry performs its processes for frame alignment. It is not clear to Applicant how the incorporation of an input register into the Shim circuitry would be necessary or would improve its operation. That is, at best, Susset and Shim suggest to substitute Susset's frame bit register 10 for Shim's input unit 110. However, the input unit 110 of Shim does not perform functions associated with frame detection. Therefore, even if this substitution were made, the resulting hypothetical combination would still fail to identify a phase of a frame, where a phase, according to claim 1 is identified based on a location of the start of the first frame in at least one of the N registers.

For at least the foregoing reasons, claim 1 is believed to be patentable. Independent claims 12 and 23 contain features similar to claim 1 and are also believed to be patentable.

Independent claim 33 defines a method of processing frames of data. The method comprises receiving data for a first frame, dividing the data for the first frame into blocks that are stored in registers, using multiple comparators to analyze the blocks, where each comparator analyzes at least two blocks that are non-consecutive in the first frame to determine a phase of the at least two blocks, and where the phase corresponds to a location of the first frame in at least one register. The method also includes identifying a start of the first frame and a phase of the first frame based on the phases of the blocks determined by the multiple comparators, and aligning data in a second frame of data, based on the phase of the first frame, to make a start of the second frame coincide with a start of a byte boundary.

As explained above, Shim and Susset are not understood to disclose or to suggest determining a phase of the at least two blocks, where the phase corresponds to a location of the first frame in at least one register, and aligning data in a second frame of data based on the phase. Accordingly, claim 33 is believed to be patentable. Independent claim 37 includes features similar to those of claim 33, and is also believed to be patentable.

Each of the remaining dependent claims is also believed to define patentable features of the invention. Each dependent claim partakes of the novelty of its corresponding independent claim and, as such, has not been discussed specifically herein.

It is believed that all of the pending claims have been addressed. However, the absence of a reply to a specific rejection, issue or comment does not signify agreement with or concession of that rejection, issue or comment. In addition, because the arguments made above may not be exhaustive, there may be reasons for patentability of any or all pending claims (or

other claims) that have not been expressed. Finally, nothing in this paper should be construed as an intent to concede any issue with regard to any claim, except as specifically stated in this paper, and the amendment of any claim does not necessarily signify concession of unpatentability of the claim prior to its amendment.

In view of the foregoing amendments and remarks, Applicant respectfully submits that the application is in condition for allowance, and such action is respectfully requested at the Examiner's earliest convenience.

Applicant's undersigned attorney can be reached at the address shown below. All telephone calls should be directed to the undersigned at 617-521-7896.

Please apply any fees or credits due in this case, which are not already covered by check, to Deposit Account 06-1050 referencing Attorney Docket No. 10559-697001.

Respectfully submitted,

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